59. The Maine PUC and several other State commissions proposed inclusion in the BCM of the costs of connecting exchanges to the public switched network through the use of microwave, trunk, or satellite technologies. Those commenters also proposed the use of an additional extra-high-cost variable for remote areas not accessible by road. What is the feasibility and the advisability of incorporating these changes into the BCM?

As we stated in answer to question 57, the emerging alternative technologies should be incented to find the geographies of their most efficient application. The current models calculate typical network configurations The extreme remote areas should be separately examined or an alternative model developed.

60. The National Cable Television Association proposed a number of modifications to the BCM related to switching cost, fill factors, digital loop carrier subscriber equipment, penetration assumptions, deployment of fiber versus copper technology assumptions, and service area interface costs. Which, if any, of these changes would be feasible and advisable to incorporate into the BCM?

None of the changes suggested by NCTA should be incorporated into the BCM or any other model. The NCTA position is based on the assumption that proprietary costs are bad, but in fact they are the only real costs that any carrier incurs in building a telephone network.

Switching costs advocated by NCTA and ETI are based on the current best price to purchase digital switches for a specific set of switching offices which did not represent switch prices in high cost areas. Offices not included under the purchase contracts have higher prices. This is especially true for the smaller carriers who are unable to purchase switches at the current best price Hence the switching costs are underestimated on the whole

Fill factors should be based on actual fill factors because this is how an actual network is built. Further, the concept of design fill factors, with higher fill factors than are realistic, will result in very costly additions or reinforcement at an earlier date than presently anticipated. Engineering at a level that causes premature exhaust is more expensive. It is less expensive to put additional cables into the ground or up on poles at the first installation, than it is to put in just enough cables this year and then reinforce at regular intervals. ETI argues that residential demand is stable, but offers no proof In fact if the population of the United States grows (as it does consistently) then so does the demand for residential phone lines. Even in the high density urban areas, new housing units get added requiring new phone lines

The majority of investment costs are associated with structure and placement costs rather than cost of the wire itself. If fill factors are changed, care should be given to see that only the cost of additional wires are reduced. Otherwise the change of fill factors will erroneously result in the assumption that only one-half (1/2) a trench is needed.

Digital loop carrier subscriber equipment prices should be based on the actual purchase prices from the actual vendors. ETI's DLC costs are unsubstantiated.

Service area interface (cross connect boxes and b-boxes) costs again should be based on what is currently purchased, currently deployed and currently used. The actual purchase prices from vendors should be used as a starting point, adding appropriate engineering and installation costs Capacity of the interface also needs to be realistically reflected ETI is in error when it sizes SAI's based on number of dwelling units expected within a serving area rather than based on the number of lines. Feeder cables serving the SAI's are not sized for 2 lines per dwelling but are sized based on best forecasting practices of demand. Only distribution cables are sized per dwelling.

ETI's analysis uses copper/analog systems at longer feeder lengths than is realistic, excluding the load coils needed to amplify the signal. ETI also ignores the fact that longer copper feeder cables would require 24 and 22 gauge cable which is more expensive to purchase and install. Also 24 and 22 gauge cables are heavier and therefore require more poles and larger conduit

61. Should the support calculated using the Benchmark Cost Model also reflect subscriber income levels, as suggested by the Puerto Rico Telephone Company in its comments?

No. There is no correlation between subscriber income levels and the cost of providing basic telephone service. Issues regarding subscriber income and universal service are properly addressed in proceedings on low income support programs, such as Lifeline and Link-Up

62. <u>The BCM appears to compare unseparated costs, calculated using a proxy methodology, with a nationwide local benchmark rate. Does use of the BCM suggest that the costs calculated by the model would be recovered only through services included in the benchmark rate? Does the BCM require changes to existing separations and access charge rules? Is the model designed to change as those rules are changed? Does the comparison of model costs with a local rate affordability benchmark create an opportunity for over-recovery from universal service support mechanisms</u>?

Each of the models appropriately calculates the total unseparated cost of basic service. These costs ignore jurisdictional boundaries. These are the correct costs that must be covered by one jurisdiction or the other in order to fairly and completely compensate carriers for the service they render

The revenues, however, must also be viewed on a total company basis. All of the revenues directly associated with the provision of basic service should be compared against those unseparated costs. Basic local service, the EUCL, any state universal service funds, federal universal service funds, lifeline and link-up plans, service connection fees and any other revenues paid to a carrier for the provision of local service should be considered as compensation for the provision of basic service.

Use of the BCM, BCM-2 or CPM does not require changes to existing separations and access charge rules although a restructure of the existing high cost support mechanisms (USF, CCLC, DEM weighting) would require changes to current Part 36, 69 and perhaps 61 Rules. Revenues can be tracked to the appropriate jurisdiction and counted against separated costs just as they are today. Any increase in the jurisdictional funding should result in a corresponding decrease in rates in that jurisdiction. For example, if a federal fund is established which compensates for basic service, the CCLC should be reduced or eliminated as the Universal Service funding replaces it. As a state funding mechanism is established, toll rates should be reduced to eliminate the implicit subsidy in those prices.

Use of a model should not create overrecovery opportunities for incumbents in the provision of basic service since BCM (and CPM) are built to reflect forward looking costs of existing networks. Implementation of a fund will not create an overrecovery opportunity in other services because any increase in universal support should result in a corresponding decrease in the rates for services that are providing the subsidy.

63. Is it feasible and/or advisable to integrate the grid cell structure used in the Cost Proxy Model (CPM) proposed by Pacific Telesis into the BCM for identifying terrain and population in areas where population density is low?

The grid cell structure is a much finer level of geographic detail than the CBG, wirecenter and study area. Therefore it allows a much finer geographic cost deaveraging and eliminates cost averaging in large rural CBGs. Also the grid cell is the most uniform geographic unit proposed.

The CPM is based on a consistent, flexible unit of geography called the grid (1/100 of degree Longitude by Latitude or ~3000ft x ~3000ft). Currently, the CPM derives the household information at the grid using Census Block data that is apportioned to the grids they fall over.

By splitting the country into 1/100 of degree Latitude and Longitude, the CPM is granular enough to accurately capture distances serving wire centers, etc. In addition, this flexible grid unit is able to be summarized into any unit of geography that a user may be interested in. These units may include Wire center, Census Block Group, City, County, or Political Boundary. The grid can also be rolled up into a number of demographic levels such as ethnicity, age, sex, income and home ownership.

The use of this grid along with the use of Wire Center boundaries (available from commercial databases) minimizes the problem of misassigning customers to the wrong wire center and ultimately to the wrong companies. The CPM assigns a Grid to a wire center based upon which wire center boundary the centroid of the grid falls in. In fact, this methodology will guarantee that as long as there is grid information available, all of the Wire centers in the Commercial database will be represented in the CPM results.

The grid cells are populated based on data in the census block, the subunit of the census block group. (The census blocks are added together to obtain the census block group. In California there are approximately 350,000 census blocks and only 22,000 CBGs).

Cost Proxy Model Proposed by Pacific Telesis

64. Can the grid cell structure used in the CPM reasonably identify population distribution in sparsely-populated areas?

See answer to 63, above. Validation of the grid cell population data with Pacific's actual individual customer locations resulted in correlation greater than 90%, meaning the grid cell structure reasonably identified population distribution.

65. Can the CPM be modified to identify terrain and soil type by grid cell?

Yes, the CPM can be modified to identify terrain and soil type by grid cell. Pacific & US West are currently evaluating the best unit of measurement for terrain and soil type. The degree of soil and terrain variation will determine if this geographic level of detail is required. If terrain/soil were measured that this level of detail similar grids could be rolled up into zones of like territory

66. Can the CPM be used on a nationwide basis to estimate the cost of providing basic residential service?

Yes. The CPM has successfully modeled the cost of basic residential service and universal service in California based upon an actual network, with actual vendor equipment purchase prices Furthermore it is the only model that costs a network as an engineer would when building such a network, using the a+bx cost formula. As most existing loop networks are similar, transitioning to a nationwide basis is just a matter of obtaining the customer location data. We are in the process of doing that now, and have six states completed

67. Using the CPM, what costs would be calculated by Census Block Group and by wire center for serving a rural, high-cost state (e.g., Arkansas)?

The CPM was designed to calculate the subsidy requirement for numerous geographies: state, company, wirecenter, census block group, grid or political unit.

The CPM can include or exclude specific companies from statewide results. This would enable a Commission to exempt small companies from proxy modeling.

The CPM uses the same cost elements for rural or urban, high or low cost locations. However, the network design and therefore the total costs will vary by geography. Using the basic geographic unit of the grid, the CPM provides greater accuracy and deaveraged costs than either the census block group (CBG) or wire center.

68. <u>Is the CPM a self-contained model, or does it rely on other models, and if so, to what extent</u>?

The CPM is a self-contained model It relies upon a complete set of engineering data inputs that Pacific uses when making engineering design decisions. Operating expenses are based upon Pacific's cost studies, some of which employ other economic models.

Any user of the CPM can modify the cost inputs to reflect their own cost assumptions. With any costing method it is critical to obtain the most accurate inputs to produce the best results.

Those costing assumptions could be based upon cost studies, other economic models, educated guesses, vendor prices, ARMIS results or other sources. Each company can select the inputs that best represent their cost structure. GTE-C developed a simple input model to run the CPM with company specific data.

SLC/CCLC

69. If a portion of the CCL charge represents a subsidy to support universal service, what is the total amount of the subsidy? Please provide supporting evidence to substantiate such estimates. Supporting evidence should indicate the cost methodology used to estimate the magnitude of the subsidy (e.g., long-run incremental, short-run incremental, fully-distributed).

The CCLC recovers the portion of the loop costs allocated to the federal jurisdiction that is not recovered through the EUCL charge.[6] It is one of the implicit support mechanisms that is a direct subsidy supporting universal service. As such, this subsidy mechanism should be made explicit, recovered from a competitively neutral funding mechanism and made available to any provider of Basic Service. After that occurs, it should be considered a part of universal service funding.

The amount of the CCLC collected by Pacific Bell in the interstate jurisdiction is $177M million annually, based on figures filed with the 1996 annual federal Access Tariff Filing. These figures are based on fully distributed costs, adjusted for growth, productivity, and inflation

[6] Pacific Bell's CCLC also includes long term support (LTS), which is money collected on behalf of companies participating in the NECA pool. LTS is designed to help equalize CCLC rates between price-cap and non-price-cap companies, and this is a subsidy to NECA company loop costs.

70. If a portion of the CCL charge represents a contribution to the recovery of loop costs, please identify and discuss alternatives to the CCL charge for recovery of those costs from all interstate telecommunications service providers (e.g., bulk billing, flat rate/per-line charge).

We suggested in our comments that the new high cost fund should equal the amount currently recovered through the CCLC and the existing USF. The CCLC is a subsidy for the local loop It, added to the EUCL and together they are designed to recover 25% of the loop costs. We do not support maintaining the CCLC on other than on interim basis since we do not believe the CCLC meets the requirements of the Act that subsidy recovery mechanisms be competitively neutral The CCLC could either be added to the universal service fund, as we have proposed, or it could bulk-billed to all interstate providers based on a flat rate per line basis

Low-Income Consumers

71. Should the new universal service fund provide support for the Lifeline and Linkup programs, in order to make those subsidies technologically and competitively neutral? If so, should the amount of the lifeline subsidy still be tied, as it is now, to the amount of the subscriber line charge?

The current funding structure for the Lifeline and Linkup programs should be left as they are today. Both programs are explicit support mechanisms for individual subscribers. All Lifeline and Linkup providers should be potential recipients of funds

In California all new competitive LECs are required to offer the Lifeline/Linkup programs. Therefore payments from the fund should be available to all LECs, both ILECs and CLECs.

Rather than tying the subsidy to the size of the SLC a flexible credit that could apply to a call control/spending limits feature may be of greater value to the customer. In a competitive environment low income customers will see new products and services designed for fit their needs and enable them to remain connected to the network.

Administration of Universal Service Support

72. Section 254(d) of the 1996 Act provides that the Commission may exempt carriers from contributing to the support of universal service if their contribution would be "de minimis." The conference report indicates that "[t]he conferees intend that this authority would only be used in cases where the administrative cost of collecting contributions from a carrier or carriers would exceed the contribution that carrier would otherwise have to make under the formula for contributions selected by the Commission." What levels of administrative costs should be expected per carrier under the various methods that have been proposed for funding (e.g., gross revenues, revenues net of payments to other carriers, retail revenues, etc.)?

To be competitively neutral, all providers should participate. We expect administrative costs would be fairly small, even if the amount is "de minimis". We support some minimum level of contribution (e.g $100) for administrative costs involved in the funding process. Under any suggested collection mechanism gross revenues, access charges from which to net revenues and retail revenues are all numbers easily available to any business with an accounting system suitable for income taxes. Under these methods of collection, no carriers should be exempt.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Colin R. Petheram, hereby certify that copies of the foregoing "Comments of Pacific Telesis Group" were served by first class US mail, postage prepaid, upon the parties on the attached service list this 2nd day of August, 1996.

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